

**Draft Five-Year Plan
For The
Waste Tire Recycling Management Program
(Ninth Edition Covering Fiscal Years 2017/18-2021/22)**

Draft Report to the Legislature

November 16, 2016 Workshop

The following document is a draft report that contains only the proposed activities and budgets for FYs 2017/18-2021/22. The full version of the draft report that contains program status, objectives, performance measures, activities, budgets and appendices will be presented during a CalRecycle workshop to be held tentatively in March 2017 with final adopt of the Plan in May/June 2017.

Five-Year Plan for the Waste Tire Recycling Management Program

Senate Bill (SB) 876 (Escutia, Statutes of 2000, Chapter 838) was enacted to provide a comprehensive measure to extend and expand California’s regulatory program related to the management of waste and used tires. One of the key provisions of this measure requires the Department of Resources Recycling and Recovery (CalRecycle) to adopt and submit to the legislature a Five-Year Plan (Plan) that included proposed budget allocations. In addition, it requires that the Plan be updated every two years. The eighth edition of the Five-Year Plan was adopted in May 2015 and covers Fiscal Years 2015/16 through 2019/20. Staff has begun the process to revise the plan to cover FYs 2017/18 to 2021/22.

The current version of the Plan (i.e., the eighth edition) described a Vision for the Future that included an expanded incentive program providing payments for desired end-user of tires. Implementing such a vision would require legislative change, along the lines of AB 1239, which was introduced but not enacted. CalRecycle will include this same Vision for the Future in the this next edition of the Plan. The following table is a summary of draft proposed expenditures for the eighth edition covering FYs 2017/18 to 2021/22. The proposed expenditures reflect the spending authority limit for the Tire Program as outlined in the Governor’s Budget. Further details of each program area are contained in this draft Plan. We anticipate the next version of this draft Plan will be presented during a CalRecycle workshop in March 2017.

Table 1: Total Tire Program Funding for Fiscal Years 2017/18-2021/22

Program Areas	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	Totals for All Fiscal Years
Enforcement	\$7,085,000	\$7,085,000	\$7,085,000	\$7,085,000	\$7,085,000	\$35,425,000
Hauler Program and Manifest System	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$2,250,000
Cleanup*	\$7,600,000	\$7,600,000	\$7,450,000	\$7,500,000	\$6,000,000	\$36,150,000
Research and Market Development	\$16,353,000	\$16,353,000	\$11,503,000	\$11,453,000	\$12,953,000	\$68,615,000
Program Staffing and Administration	\$7,725,000	\$7,725,000	\$7,725,000	\$7,725,000	\$7,725,000	\$38,625,000
Administration	\$4,134,000	\$4,134,000	\$4,134,000	\$4,134,000	\$4,134,000	\$20,670,000
Mandatory Contracts	\$1,288,000	\$1,288,000	\$1,288,000	\$1,288,000	\$1,288,000	\$6,440,000
Totals	\$44,635,000	\$44,635,000	\$39,635,000	\$39,635,000	\$39,635,000	\$208,175,000
Spending Authority	\$44,635,000	\$44,635,000	\$39,635,000	\$39,635,000	\$39,635,000	\$208,175,000

* The cleanup element includes the Farm and Ranch Solid Waste Cleanup and Abatement Grant Program. Its spending authority is separate from the Tire Fund’s spending authority.

Enforcement and Regulations Relating to the Storage of Waste and Used Tires

Activity Description and Budget

The waste tire enforcement program will implement a two-pronged approach to statewide enforcement using local enforcement entities where available and state resources in other areas. This program will provide ongoing assistance to local jurisdictions and oversee the entire enforcement effort. Table 2 provides a list of activities and associated budgets for the enforcement and regulations relating to the storage of waste and used tires element.

Table 2: Budget for Enforcement and Regulations Relating to the Storage of Waste and Used Tires

Program Area	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
Waste Tire Enforcement Support Activities	\$120,000	\$320,000	\$120,000	\$320,000	\$120,000
California Highway Patrol Agreement to Support Enforcement Activities	\$200,000	\$0*	\$200,000	\$0*	\$200,000
Local Government Waste Tire Enforcement Grant Program	\$6,500,000	\$6,500,000	\$6,500,000	\$6,500,000	\$6,500,000
Database System Maintenance and Enhancement	\$165,000	\$165,000	\$165,000	\$165,000	\$165,000
Tire Enforcement Inspector Technical Training	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Totals	\$7,085,000	\$7,085,000	\$7,085,000	\$7,085,000	\$7,085,000

* Budgets for these fiscal years are zero due to the contract running for a two-year cycle.

1. Waste Tire Enforcement Support Activities: Waste Tire Enforcement Support Activities: This line item supports the overall mission of enforcing the laws regarding the hauling, storage, and disposal of waste and used tires in California and along the California/Mexico border region and illegal activities related to export of tires through California ports. Funds will be allocated to the following projects:

- Surveillance Equipment and Assistance:** CalRecycle entered into an agreement with the Air Resources Board (ARB) in May 2014 which continues ARB's previous support of field investigative efforts by CalRecycle tire enforcement staff and local waste tire enforcement grantees. ARB has extensive experience in assisting other agencies in the purchase, maintenance, monitoring, and use of both covert and overt surveillance equipment. ARB's expertise has aided and should continue to aid CalRecycle and local waste tire enforcement grantees' efforts to detect, deter and prosecute those who illegally haul and/or dispose of tires, or illegal activities related to tire exports through California ports. Additionally, as needed, ARB will help CalRecycle identify, evaluate, and procure more sophisticated surveillance equipment for covert activities to allow for real-time remote monitoring and sensing.

- **California Environmental Quality Act (CEQA) Compliance Support:** CalRecycle will procure contractor support for conducting required CEQA analyses for new permitted facilities or for permitted facilities that want to/need to expand their facility's authorized operating limits. Often facilities with a minor waste tire facility permit find that the practical operating demands of remaining viable within their industry bring them into conflict with the statutory 4,999 waste tire storage limit of their minor permit. For these facilities, one of the biggest hurdles in acquiring the needed major waste tire facility permit, which would enable them to operate successfully while staying in compliance, is meeting the CEQA requirements for the larger permit. The contractor will provide CEQA expertise and analyses for CalRecycle to complete the needed CEQA compliance in considering applications for major permits.
- **Permitting Assistance Contract:** Permitted waste tire storage and processing capacity in the state is limited and needs to be expanded. Providing contractor support with expertise in local land use and state permitting requirements would help local waste tire facilities more quickly comply with permitting requirements and achieve a permitted status that fits their business operations while ensuring compliance with waste tire laws. This would provide waste tire enforcement resources to operators who are complying but who need expertise in permitting to expand their business.
- **Waste Tire Enforcement Inspectors and Managers Coordination, Training and Development, and Outreach:**

 - CalRecycle will continue to provide training and conduct regular meetings, workshops, and webinars to train and maintain a high level of competence among all local government waste tire inspectors working in the TEA grant program in support of ongoing compliance verification, violation detection, and enforcement case development. CalRecycle will also provide ongoing training workshops for waste tire haulers as well as reach out and provide training to CHP officers, local sheriff's deputies and police officers as well as other state law enforcement personnel to make them aware of California's waste tire laws and regulations and the role they can play in helping detect violations and provide additional enforcement support.
 - CalRecycle will procure contractor support to develop and implement distance learning capabilities and curricula via the Internet in support of providing initial and ongoing training for local tire enforcement grantee inspectors. This will enable more inspectors to receive more frequent training than is currently capable and will leverage limited travel budgets that currently prevent many inspectors from being able to attend in-person annual and periodic roundtable training sessions. This effort will also focus on providing ongoing education and training to waste tire haulers as part of their annual registration renewal activities. The overall effort is focused on using the ever-expanding reach of the Internet to communicate with our partners and stakeholders in the regulated community and provide needed education and training. The latter is part of CalRecycle efforts to achieve greater waste tire enforcement compliance through expanded education and outreach. This will enable CalRecycle to focus limited enforcement resources on more serious and repeat offenders.

Activity Funding

FYs 2017/18, 2019/20, and 2021/2022\$120,000 per fiscal year

FYs 2018/19 and 2020/21\$320,000 per fiscal year

2. California Highway Patrol (CHP) Agreement to Support Enforcement Activities:

CHP will continue its support to CalRecycle’s field efforts in the areas of ground and aerial surveillance, covert and overt investigations, inspector security, training for state and local law enforcement officers, and roadside checkpoints to assist CalRecycle as well as local waste tire enforcement personnel in their efforts to detect and deter waste tire facility and hauling violations. If CHP is unable to continue this work after the current contract expires due to budget or priority issues, CalRecycle will pursue a similar agreement with other law enforcement agencies. This effort also includes surveillance and enforcement support focused on illegal activities related to tire exports through California ports and in the California/Mexico border region.

Activity Funding

FYs 2017/18, 2019/20, and 2021/2022\$200,000 per fiscal year

3. Local Government Waste Tire Enforcement Grant Program: This long-running grant program enhances California’s waste tire enforcement infrastructure by providing noncompetitive grants to cities, counties, or cities and counties to perform local waste tire inspection and enforcement activities. This program augments CalRecycle’s enforcement efforts in overseeing the proper management and flow of waste tires throughout the state. Eligible entities are reimbursed for costs to identify waste tire sites, conduct waste tire facilities inspections, investigate illegal tire disposal activities and conduct small tire pile cleanup, review waste tire hauler documents, and issue Notices of Violation. They ensure that tire dealers, waste tire processors, auto dismantlers, retreaders, tire haulers, and other waste tire entities comply with all applicable laws, storage standards, and manifest requirements. This program will allow waste tire grantees to be reimbursed for time that they spend coordinating with a Local Conservation Corp to clean up small waste tire piles and illegally dumped waste tires.

The program strives to provide consistent statewide inspection and enforcement coverage in a cost-effective and efficient manner. As a result of the program, local governments have an expanded role in the enforcement of these waste tire entities, and are able to apply their unique local knowledge thereby ensuring the proper management of California’s annual production of over 44 million waste tires and improving the overall protection of public health, safety, and the environment.

Activity Funding

FYs 2017/18-2021/22.....\$6,500,000 per fiscal year

4. Database System Maintenance and Enhancement: The Waste Tire Management System (WTMS) tracks tire enforcement and manifest program activities. The system was developed per the requirements defined in the approved feasibility study report. The system tracks waste tire generators, registered waste tire haulers, permitted and unpermitted end-use facilities, manifest forms, inspection records, and enforcement actions.

The system was initially released in July 2003 and has continued to meet requirements through continued maintenance and enhancement at an annual cost of \$165,000 per fiscal year. Areas of ongoing maintenance and enhancement include:

- Standard reports to track facility inspections, waste tire storage permits, grantee referrals, and Notices of Violation to ensure performance measures are achieved.
- Ongoing enhancements to compliance reports that assist grantees with inspection prioritization and planning.
- Ongoing maintenance that includes revising inspection forms and making now mandatory electronic inspection reporting efficient and cross-platform supported.
- Additionally, periodic upgrades to the system are anticipated as the program continues to grow and change to meet the needs of our internal and external stakeholders as well as CalEPA reporting requirements.

Activity Funding

FYs 2017/18-2021/22.....\$165,000 per fiscal year

- 5. Tire Enforcement Inspector Technical Training:** These funds are used to supplement the tire portion of CalRecycle’s annual technical training series for local waste tire enforcement agencies and CalRecycle tire enforcement staff. Training provides inspectors and managers with up-to-date information on CalRecycle’s waste tire management policies, programs and grants, as well as a venue to network and discuss other items of interest regarding the management of waste tires and emerging challenges or threats. Other outreach activities may also be held during the year. This annual training event offers concurrent technical sessions, and field tours provide an opportunity to network with other local enforcement agencies, tire enforcement agencies, CalRecycle staff, and industry.

Activity Funding

FYs 2017/18-2021/22.....\$100,000 per fiscal year

Waste and Used Tire Hauler Program and Manifest System

Activity Description and Budget

The hauler and manifest program is a general budget line item as shown in Table 3. The costs associated with this budget include printing, mailing, and return postage for the Comprehensive Trip Log (CTL) waste tire manifest forms that are provided to California’s 1,400-plus registered waste tire haulers (free of charge); training and educational materials; contractor support to scan and conduct data entry of the returned CTL forms; and augmenting CalRecycle’s Information Technology Services Branch annual budget for manifest and hauler registration-related upkeep and maintenance of the WTMS database. Additionally, budgeted funds cover the cost of printing registered waste tire hauler decals and certificates and Tire Program Identification Number certificates issued to California’s 30,000+ waste tire entities.

Table 3: Budget for the Waste and Used Tire Hauler Program and Manifest System

Program Area	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
Hauler Program and Manifest System	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000
Totals	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000

Hauler Program and Manifest System: With CalRecycle approval of the CTL form, the overall costs for the manifest program have been reduced as less printing, postage, and processing time is necessary. The numbers presented above in Table 3 adequately reflect this revision. Funds also will be allocated to the following project:

Waste Tire Hauler Portal: CalRecycle will continue development and expansion of its online waste tire hauler portal. This resource is designed to enable California’s 1,400-plus waste tire haulers to complete most activities associated with applying for and annually renewing their waste tire hauler registrations, as well as managing their business’ hauler information within the WTMS database.

Waste Tire Hauler Training Workshops: CalRecycle will continue conducting cost-free, bilingual training workshops throughout California, with a special emphasis on the California/Mexico Border region, to augment our outreach and educational efforts conducted as part of the annual hauler registration renewal process, to inform and educate waste tire haulers on their roles and responsibilities under California’s waste tire compliance system.

Activity Funding

FYs 2017/18–2021/20.....\$450,000 per fiscal year

Cleanup, Abatement, or Other Remedial Actions Related to Tire Stockpiles Throughout the State

Activity Description and Budget

The cleanup program will continue to remediate sites with CalRecycle-managed contractors and grants to entities for cleanup of illegal piles. The Local Conservation Corps will continue to assist local governments with cleanup and collection activities, which may eventually phase out the necessity for the Local Government Waste Tire Cleanup and Amnesty grant programs (this would necessitate CalRecycle working with the LCCs to support the availability of these services in areas of the State not traditionally serviced by LCCs). In addition, CalRecycle will continue to provide funding to the Farm and Ranch Solid Waste Cleanup and Abatement Grant Program to further mitigate future accumulations of waste tires. However, this program and CalRecycle’s Solid Waste Cleanup grant program will be evaluated over the next few years to determine if it is more efficient to consolidate them into one cleanup grant program. Also, CalRecycle will establish an emergency reserve account, which cannot exceed \$1 million, as directed by SB 876. Table 7 provides a list of activities and associated budgets for the element titled “Cleanup, Abatement, or Other Remedial Actions Related to Tire Stockpiles throughout the State.”

Table 7: Budget for Cleanup, Abatement, and Remedial Action

Program Area	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
Short-Term Remediation Projects Including Emergency Reserve	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
Local Conservation Corps Grant Program	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000
Local Government Waste Tire Cleanup Grant Program	\$0	\$1,600,000	\$0	\$1,500,000	\$0
Local Government Waste Tire Amnesty Grant Program	\$1,600,000	\$0	\$1,450,000	\$0	\$0
Emergency Reserve Account	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
Farm and Ranch Solid Waste Cleanup and Abatement Grant Program*	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000
Totals	\$7,600,000	\$7,600,000	\$7,450,000	\$7,500,000	\$6,000,000

* Funds transferred to Farm and Ranch Solid Waste Cleanup and Abatement Grant Program.

1. **Short-Term Remediation Projects:** Public Resources Code (PRC) Section 42846 allows CalRecycle to perform any cleanup, abatement, or remedial work required to prevent substantial pollution, nuisance, or injury to public health and safety at waste tire sites where the responsible parties have failed to take appropriate action. CalRecycle funds short-term remediation of illegal waste tire sites with CalRecycle-managed contracts, which may be used to stabilize piles until removal; remove all waste tires; and/or remediate the site after the tires have been removed.

Activity Funding

FYs 2017/18–2021/22.....\$300,000 per fiscal year

2. **Local Conservation Corps Grant Program:** The purpose of the grant [program](#) is to implement beverage container recycling and litter abatement programs, recycling activities related to the collection and recovery of used oil and electronic waste, and the cleanup and abatement of waste tires. Eligible applicants are Local Conservation Corps that are designated by a county to perform litter abatement, recycling, and related activities, and are certified by the California Conservation Corps as having operated for a minimum of two years and as meeting all other criteria of PRC section 14507.5 This program expends funding from the California Beverage Container Recycling Fund, Electronic Waste Recovery and Recycling Account, California Tire Recycling Management Fund, and California Used Oil Recycling Fund. Eligible activities may include cleanup events, education and outreach, event labor and staff resources in partnership with local jurisdictions, collection and hauling services (if permitted) and other projects allowed under PRC sections 17001(b)(3) and 42872. The LCCs will assist local governments with waste tire cleanup and collection activities; this may eventually phase out the necessity for the Local Government Waste Tire Cleanup and Amnesty grant programs, but for now CalRecycle is continuing those grant programs. CalRecycle will work with the LCCs to support the availability of these services in areas of the State not traditionally serviced by the LCCs.

Activity Funding

FYs 2017/18–2021/22.....\$5,000,000 per fiscal year

3. **Local Government Waste Tire Cleanup Grant Program:** This grant [program](#) is designed to pay for the cost of cleanup of illegally dumped waste tires. Funds are available for the collection, removal, transportation, recycling, and disposal of California waste tires from tire piles and areas where illegal dumping has occurred. Funds are limited to the removal of waste tires along public rights-of-way and on private property with either: (a) less than 500 tires on site, or (b) 500 to 4,999 tires if the property owner signs an affidavit stating that they did not bring the tires on site or allow others to bring the tires on site. Local governments including cities, counties, special districts, other political subdivisions and jurisdictions joined together by formal agreements, as well as qualifying Indian tribes, are eligible for funding. Cities or counties may submit a regional application with authorization from other cities and/or counties participating in the regional application. Priority will be given to applicants that demonstrate coordination with a Local Conservation Corps. Eligible costs for this coordination will be described the in Procedures and Requirements section of the Grant Agreement. *Note: This program could be phased out after 2020/21. If so, cleanup activities may be conducted by the LCCs. CalRecycle will work with the LCCs to support the availability of these services in areas of the State not traditionally serviced by the LCCs.*

Activity Funding

FY 2018/19.....	\$1,600,000
FY 2020/21.....	\$1,500,000

- 4. Local Government Waste Tire Amnesty Grant Program:** This grant [program](#) is designed to help divert waste tires from landfill disposal and prevent illegal tire dumping. Funds pay for waste tire collection events that are held in convenient locations for the public to bring in their used tires at no charge. An amnesty event can also consist of a coupon program that allows citizens to bring in their tires on specified days. Amnesty events are not intended for the disposal of waste tires from waste tire generating businesses (PRC §42954(7)). Local governments including cities, counties, special districts, other political subdivisions and jurisdictions joined together by formal agreements, as well as qualifying Indian tribes, are eligible for funding. Cities or counties may submit a regional application with authorization from other cities and/or counties participating in the regional application. Priority will be given to applicants that demonstrate coordination with a Local Conservation Corps. Eligible costs for this coordination will be described in the Procedures and Requirements section of the Grant Agreement. *Note: This program could be phased out after FY 2019/20. If so, amnesty activities may be conducted by the LCCs. CalRecycle will work with the LCCs to support the availability of these services in areas of the State not traditionally serviced by the LCCs.*

Activity Funding

FY 2017/18.....	\$1,600,000
FY 2019/20.....	\$1,450,000

- 5. Emergency Reserve Account:** SB 876 required CalRecycle to create and maintain an emergency reserve account which shall not exceed \$1 million. Funding for FYs 2017/18–2021/22 is proposed at \$300,000. These funds will be used to respond to emergencies involving waste tires (e.g., tire fires). This emergency reserve account is subject to change depending on the need to fund cleanups for any emergencies that arise. While CalRecycle is required to maintain funds in this account with expenditure authority for emergency purposes, more than \$1,000,000 may be expended on a yearly basis. If allocated funds are not expended, funds may be carried forward to the fund balance in the following fiscal year.

Activity Funding

FYs 2017/18–2021/22	\$300,000 per fiscal year
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- 6. Farm and Ranch Solid Waste Cleanup and Abatement Grant Program:** The purpose of this grant [program](#) is to provide funding for the cleanup of illegal solid waste sites on farm or ranch property. A site may be eligible for funding if the parcel(s) is (are) zoned for agricultural use, unauthorized solid waste disposal has occurred, and the site(s) is (are) in need of cleanup in order to abate a nuisance or public health and safety threat and/or a threat to the environment. Tire piles can attract more dumping, so cleaning up these sites will help deter future illegal dumping of tires. SB 876 requires that transferred tire funds be allocated to pay the costs of cleanup, abatement, or other remedial action related to the illegal disposal of whole waste tires on farm or ranch properties. Other non-tire cleanup costs are paid for using other program funding sources.

Activity Funding

FYs 2017/18–2021/22	\$400,000 per fiscal year
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Research Directed at Promoting and Developing Alternatives to the Landfill Disposal of Tires; and Market Development and New Technology Activities for Waste and Used Tires

Activity Description and Budget

CalRecycle is proposing to continue funding TDA and RAC research and technical support; funding support of Caltrans specifications development; research on end-of-life issues for tire-derived products; and research on landfill emissions. This will continue CalRecycle’s focus on rubberized asphalt concrete, tire-derived aggregate, and other tire-derived products that use the largest number of tires. Since the largest number of tires can be diverted through RAC and TDA applications, significant resources are being devoted to them. Table 9 provides the budget for this element.

Table 9: Budget for Research and Market Development Activities

Program Area	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22
Tire-Derived Aggregate Civil Engineering Technical Support; Research Efforts; Technology Center and Laboratory Testing Services	\$950,000	\$500,000	\$950,000	\$950,000	\$500,000
Rubberized Asphalt Concrete Technical Support and Research	\$200,000	\$650,000	\$650,000	\$200,000	\$650,000
Caltrans PG+5 Binder Project	\$350,000	\$350,000	\$350,000	\$0	\$0
Research on TDPs and Non-Highway Technologies Using Waste Tires	\$250,000	\$250,000	\$250,000	\$0	\$0
Research on Landfill Emissions	\$250,000	\$0	\$0	\$0	\$0
Research on Potential Effects of Recycled Tire Rubber	\$0	\$1,000,000	\$1,000,000	\$0	\$0
Feedstock Conversion Assistance and Material Testing	\$500,000	\$500,000	\$0	\$0	\$0
Tire-Derived Aggregate Grant Program	\$850,000	\$850,000	\$850,000	\$850,000	\$850,000
Rubberized Pavement Grant Program	\$7,750,000	\$7,750,000	\$3,000,000	\$3,000,000	\$3,000,000
Tire-Derived Products Grant Program	\$1,000,000	\$0	\$1,000,000	\$0	\$1,000,000
Tire Recycling Incentive Program	\$3,878,000	\$4,128,000	\$3,078,000	\$6,078,000	\$6,578,000
Tire Outreach and Market Analysis	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
Tire Events	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
Totals	\$16,353,000	\$16,353,000	\$11,503,000	\$11,453,000	\$12,953,000

1. Tire-Derived Aggregate (TDA) Civil Engineering Technical Support; Research Efforts; and Technology Center and Laboratory Testing Services:

CalRecycle will continue to provide technical support to address issues associated with the use of TDA in civil engineering projects, research to investigate new TDA applications and laboratory testing services to assure compliance with TDA specifications. As shown in the activity funding below, funding for these efforts will vary between \$500,000 and \$950,000 per fiscal year. This is done to accommodate the award cycles for the contracts needed to support CalRecycle’s Technical Support Contracts.

- **Tire-Derived Aggregate Civil Engineering Technical Support:** CalRecycle’s technical support efforts will promote the use of TDA through a technical assistance, an outreach marketing campaign and training and education plan. These tasks will be accomplished through a contractor with TDA expertise partnered with a marketing outreach contractor. CalRecycle will also direct its technical assistance contractor to develop technology transfer materials that showcase the performance and cost benefits of using TDA. The technical assistance contractor will present these materials and serve as a CalRecycle liaison at various key stakeholder group workshops and conferences.
- **TDA Research Efforts:** Under this activity, CalRecycle will continue to investigate new civil engineering uses for waste tires, including partnering with state, local, and private-sector engineers to conduct research and to train and educate them on the use of TDA in their projects. For research projects focusing on specific civil engineering uses of waste tires, project-specific contracts may be implemented. These projects could include, but are not limited to, erosion control, earthquake damping, vibration mitigation, retaining and sound walls, storm water runoff/drainage control, and septic tank leach field applications. A recent example that evolved from CalRecycle research efforts is a project that will be done in partnership with Santa Barbara County to demonstrate the feasibility of using TDA in a mechanically stabilized earth application. The proposed project will repair and relocate a section of road on a steep hillside. This project is scheduled to be completed in the fall of 2017.
- **Tire-Derived Aggregate Technology Center and Laboratory Testing Services:** CalRecycle will continue its partnership with a contractor who has knowledge and experience with the TDA and RAC material specifications in California. Through the TDA Technology Center, the contractor will provide statewide technical assistance to local governments through direct consultation and presentations at local and regional workshops related to material specifications for both TDA and RAC. To assure compliance with material specifications, the contractor will also provide validation testing services in support of CalRecycle RAC and TDA projects. The contractor will also continue to provide curriculum development support to California universities to educate the next generation of engineers on the benefits of using TDA.

Activity Funding

FYs 2017/18, 2019/20 and 2020/21.....	\$950,000 per fiscal year
FYs 2018/19 and 2021/22.....	\$500,000 per fiscal year

2. Rubberized Asphalt Concrete (RAC) Technical Support and Research: The success of CalRecycle’s RAC programs has been due in part to the technical support that has been provided through CalRecycle’s RAC technical assistance contract and research efforts conducted by its university partners. Therefore, CalRecycle is proposing to continue to provide technical support and

research to address issues associated with roadway projects, including rubber hot-mix, rubber chip seal, rubber cape seals, and other emerging paving applications that use tire-derived materials that have been determined by CalRecycle to have benefits derived from the use of scrap tires. As shown in the activity funding below, funding for these efforts will vary between \$200,000 and \$650,000 per fiscal year. This is done to accommodate the award cycles for the contracts needed to support CalRecycle’s Technical Support Contracts.

- **RAC Technical Support:** The technical assistance contractor will also assist CalRecycle with marketing and promoting the use of RAC. This will be accomplished through the development and distribution of technology transfer materials that showcase the benefits of using RAC and presentation of these materials at key stakeholder workshops and conferences. The contractor provides technical assistance and training to RAC grantees to assure that their projects are successful. To date, the contractor has conducted training sessions for more than 300 local government entities. The contractor will also assist CalRecycle in implementing a cooperative purchasing program to address obstacles to wider and continued, sustainable use of RAC by local agencies. Local government agencies that typically have smaller paving projects due to budgetary issues or lack of proximity to RAC manufacturing facilities will benefit from the cost savings provided by a cooperative purchase project. Through this program, the contractor will coordinate the participating agency projects and may provide design assistance, specification review, bidding/procurement, construction management, quality assurance, and quality control, as necessary. In addition, the contractor will provide training to each participating agency so that they can carry out future cooperative purchases on their own.

- **RAC Research:** Under this activity CalRecycle will continue to conduct research of rubber paving applications in support of its efforts to promote its use. Listed below are several RAC research proposals that CalRecycle is currently considering:
 - Further research on developing Performance Graded (PG) testing for field blended asphalt rubber binders. The large rubber particles in field blended asphalt rubber, will not allow it to be tested using current PG grading testing methods. This research will investigate the use of a new PG testing method that will test field blended asphalt rubber. This will ultimately increase the use of RAC by allowing field blend asphalt rubber binders to be included in the current PG grading system for asphalt paving.
 - Research in determining the rubber content in terminal binders. Determining the rubber content in terminal blend binders is a challenge so this research will investigate potential methods for validating the actual percentage of rubber in terminal blend binders.
 - Research in support of the Caltrans PG+5 binder project that is described in Activity 3 below.

Activity Funding

FYs 2017/18 and 2020/21.....\$200,000 per fiscal year
 FYs 2018/19, 2019/20 and 2021/22..... \$650,000 per fiscal year

3. **Caltrans PG+5 Binder Project:** Caltrans is in the process of developing a PG+5 binder proposal that would require the use of a minimum of 5 percent crumb rubber in all asphalt binder that is currently classified as unmodified. CalRecycle would partner with Caltrans to identify a series of research proposals to support the implementation its PG+5 proposal. CalRecycle has already contracted with Caltrans to investigate the performance of the new PG+5 binder as compared to unmodified binders containing no rubber. Future research efforts could also investigate the performance and any potential

impacts to the current rubber pavement technologies (i.e., field-blended asphalt rubber and terminal blend).

Activity Funding

FYs 2017/18-2019/20..... \$350,000 per fiscal year

- 4. **Research on TDPs and Non-Highway Technologies Using Waste Tires:** CalRecycle will continue to investigate TDPs and non-highway-related technologies that utilize waste tires to study and determine whether they are viable in the current tire market and if there are health and safety impacts that could adversely impact their use. Some of these applications may include identification of end-of-life options for various TDPs including turf applications and playgrounds; assessing the feasibility of using crumb rubber in molded, extruded, and other products; and assessing market opportunities for various TDPs. To conduct this research, CalRecycle would partner with universities, state agencies, and the U.S. Environmental Protection Agency when appropriate.

Activity Funding

FYs 2017/18–2019/20..... \$250,000 per fiscal year

- 5. **Research on Landfill Emissions:** Many landfills use shredded tires as daily cover and in landfill gas collection systems, and/or dispose of significant amounts of altered tires along with municipal solid waste. Layers of tires in the waste mass may have an impact on landfill gas movement within, and external to, the waste mass. CalRecycle will continue to study the surface emissions and lateral migration of landfill gas in landfills that use and/or dispose of large quantities of waste tires to determine effects on and overall performance of landfill monitoring and control systems. For comparative purposes, the emissions from representative landfills that do not use and/or dispose of significant amounts of waste tires will also be studied.

Activity Funding

FY 2017/18.....\$250,000

- 6. **Research on Potential Effects of Recycled Tire Rubber:** Under this activity, CalRecycle may investigate potential health effects associated with the chemicals that can be released from specific products containing recycled tire rubber. This may include, but is not limited to, identifying various chemicals released; evaluating exposure through various methods of transmission; evaluating the potential impact on sensitive populations; identification and or implementation of personal monitoring or biomonitoring protocols; and other appropriate research and/or development of other applicable protocols.

Activity Funding

FYs 2018/19 and 2019/20.....\$1,000,000 per fiscal year

- 7. **Feedstock Conversion Assistance and Material Testing:** This activity proposes to provide manufacturers necessary technical assistance and other services to support feedstock conversion (using recycled crumb rubber rather than virgin rubber and/or other materials). The contact may also provide marketing and material testing support for the Tire Incentive Program.

Activities may include, but are not limited to: identifying prospective manufacturers and products suitable for feedstock conversion; developing marketing information and conducting marketing

outreach to prospective manufacturers; securing interested manufacturers to participate in feedstock conversion activities; developing individual manufacturer activity plans and associated budgets for feedstock conversion, and qualifying processors to provide crumb rubber. Additionally, the contract may provide for working with manufacturers and securing appropriate technical expertise to execute individual manufacturer activity plans for feedstock conversion and providing technical assistance and follow-up to ensure production and sale of the Tire-Derived Products.

Marketing and material testing support for the Tire Incentive Program may include, but is not limited to: on-site sampling and laboratory testing of crumb rubber to ensure appropriate mesh size and particle distribution; identifying contaminants; and performing appropriate quality assurance and quality control checks.

Activity Funding

FYs 2018/19-2019/20.....\$500,000 per fiscal year

- 8. **Tire-Derived Aggregate Grant Program:** This [program](#) provides funding to local governments, special districts, joint powers authorities, State agencies (including offices, departments, bureaus, and boards), California-based private, for-profit entities, non-profit organizations, and qualifying California Indian tribes for civil engineering projects utilizing TDA. To be eligible for the grants, projects must use TDA in one of a variety of approved civil engineering applications.

Activity Funding

FYs 2017/18–2021/22..... \$850,000 per fiscal year

- 9. **Rubberized Pavement Grant Program:** This [program](#) will continue to be offered to cities, counties and qualifying California Indian tribes that fund public works projects located in California. The program is designed to help create long-term sustainable markets by focusing on first-time and limited-experience users of rubberized paving. This may include grants and incentives to further the purposes of the program. Funding for this program will be reduced due to additional spending authority expiring in FY 2019/20.

Activity Funding

FYs 2017/18 and 2018/19.....\$7,750,000 per fiscal year

FYs 2019/20-2021/22\$3,000,000 per fiscal year

- 10. **Tire-Derived Product Grant Program:** This program and its predecessors have successfully increased demand for TDPs, especially with local governments and school districts. It has also encouraged the appropriate substitution of recycled rubber for virgin rubber (also known as feedstock conversion). Typical TDPs include landscaping and playground loose-fill mulch, playground tiles, crumb rubber infill for all-weather sports surfacing, rubberized sidewalks and tree wells, floor and agricultural mats, and sports tracks.

Activity Funding

FYs 2017/18, 2019/20 and 2021/22..... \$1,000,000 per fiscal year

- 11. **Tire Incentive Program:** This competitive incentive grant program is aimed at expanding demand for higher value-added products using crumb rubber from California-generated waste tires. Emphasis will be on products that have not benefited from the TDP Grant Program. Incentives may be targeted

to three product types: new and existing tire-derived products, feedstock conversion, and use of fine (<50) mesh material.

Examples of possible eligible products include, but are not limited to: flooring underlayment, rubberized flooring, conveyer belts, calendared or compounded rubber, agricultural harvesting devices, various landscaping and garden products, various building products, various traffic devices, spacers, fencing, asphalt products (that are not eligible under other CalRecycle programs), paintings, coatings, etc. Asphalt products must contain a minimum of 5 percent crumb rubber in the binder or flux.

If legislation is enacted authorizing CalRecycle to implement a broader-based incentive program, then CalRecycle anticipates that implementation details would be discussed at public meetings/workshops prior to actual implementation. This could include but is not limited to subjects such as: activity funding levels; eligible entities and products; incentive levels; application and documentation processes; modification or elimination of existing market development grant programs; and modification of proposed research and technical assistance contracts to provide necessary support for a new incentive program.

Activity Funding

FY 2017/18.....	\$3,878,000
FY 2018/19.....	\$4,128,000
FY 2019/20.....	\$3,078,000
FY 2020/21.....	\$6,078,000
FY 2021/22.....	\$6,578,000

12. Tire Outreach and Market Analysis: This program is intended to document market trends and conduct focused technical outreach to public and private procurement entities to increase demand and expand the use of waste tire-derived material in a variety of applications including higher value-added products. Staff and an independent contractor will provide:

- An annual in-depth survey and analysis of the waste tire and TDP markets in California and the associated *California Waste Tire Market Report*. This effort consists of a market analysis study to assess the market for California waste tires and influencing factors in the market, including providing information on the waste tire diversion rate, market trends, supply/demand balance and capacity, and other relevant market analyses. The analysis will culminate with the annual publication of the *California Waste Tire Market Report*.
- Focused technical outreach and education targeted at stakeholders such as federal, state, and local governments, school districts, and private entities that are in a position to procure tire-derived products and/or have the authority to specify them in future projects. The goal of this effort is to increase demand for TDPs, foster the application of new technologies, and expand the use of waste tire-derived material into a variety of applications, including higher value-added products. This includes monitoring and measuring the outcome of these efforts; developing case studies; conducting meetings, trainings, and webinars to targeted stakeholders (including two CalRecycle tire conferences); and maintaining and updating outreach and education materials.

- Identify end-of-life best management practices and markets for synthetic turf, infill, playground fill, and other TDPs.
- Research and testing to address identified gaps in TDP product data and specifications that pose a barrier to TDP market expansion.

Activity Funding

FYs 2017/18–2021/22.....\$300,000 per fiscal year

13. Tire Events: CalRecycle will continue to hold tire workshops, forums, and/or trainings, as it has in past years. These tire business/product events will provide attendees with up-to-date information about waste tire management programs. They provide a venue to discuss all aspects of waste tire management, including hauling, manifests, cleanup, proper disposal, recycling technologies, and research and market development activities. These events also offer a venue for staff and stakeholders to meet and focus on issues of common concern. Wherever possible, events will be conducted in conjunction with related events organized by organizations such as the League of California Cities, California Public Works Association, and California State Association of Counties. In addition, staff combined the tire and used oil/household hazardous waste annual conference and the Recycling Market Development Zone conferences and training workshops into one combined three-year contract to provide efficiencies of scale and other benefits. All events also will be coordinated with CalRecycle’s Office of Public Affairs.

Activity Funding

FYs 2017/18–2021/22.....\$75,000 per fiscal year

Administrative Costs

Program Staffing

Tire-related activities are performed by a total of 73.1 positions within CalRecycle. The cost of staffing is approximately \$7.7 million.

Activity Funding

FYs 2017/18–2021/22.....\$7,725,000 per fiscal year*

**Staffing costs are estimates only, due to the unpredictability of costs for personnel services.*

Administration

Administration refers to the accounting of central management costs such as those pertaining to executive management, accounting, human resources, grants, business services, employee health and safety, small-office support, and statewide pro rata assessments (pro rata is the sharing of central service costs as mentioned in the State Administrative Manual, Section 8753, that generally serve all of CalRecycle, i.e., indirect or overhead costs, by funds other than the General Fund). Administration funding represents the distribution of these “indirect costs” to direct CalRecycle program activities that include the tire program.

Activity Funding

FYs 2017/18–2021/22.....\$4,134,000 per fiscal year*

**Administrative costs are estimates only, due to the unpredictability of costs for personnel services.*

Mandatory Contracts

Mandatory contracts include allocations for the following: Attorney General’s Office, Board of Equalization, Department of Finance, Foundation of California Community Colleges, and the Governor’s Office of Planning and Research.

Activity Funding

FYs 2017/18–2021/22.....\$1,288,000 per fiscal year*

**Estimate of costs for mandatory contracts*